

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously Presented) A mask comprising a pattern to modify a circuitry feature exposed in a radiation sensitive layer by transmitting modifying radiation according to the pattern to a region of the radiation sensitive layer containing the circuitry feature to reduce a distortion of the circuitry feature.
2. (Previously Presented) The mask of claim 1:

wherein the circuitry feature includes a corner rounded portion; and

wherein the pattern includes a radiation opaque portion corresponding to the circuitry feature having a corner cutout corresponding to the corner rounded portion to reduce the corner rounded portion by exposing the corner rounded portion with radiation transmitted through the corner cutout.
3. (Original) The mask of claim 1, wherein the pattern comprises a radiation intensity reducer to create the modifying radiation by reducing a portion of incident radiation provided to the mask and transmitting the modifying radiation to the region containing the circuitry feature.
4. (Previously Presented) The mask of claim 3, wherein the radiation intensity reducer comprises a plurality of proximate opaque subresolution features.
5. (Previously Presented) The mask of claim 3, wherein the radiation intensity reducer comprises an applied phase shifting material to prevent a portion of radiation provided to the mask from exposing the radiation sensitive layer.

6. (Original) The mask of claim 1, wherein the pattern comprises a proximity effect distortion reducing feature selected from the group consisting of a serif to reduce corner rounding by emphasizing a corner of the circuitry feature and a hammerhead to reduce line shortening by emphasizing an end of the circuitry feature.
7. (Original) The mask of claim 1, wherein the pattern comprises a phase shifter.
8. (Original) The mask of claim 1:

wherein the circuitry feature includes a line segment having a pattern shift distortion that shifts the line segment to a first side of the line segment; and

wherein the pattern comprises a high radiation transmittance region corresponding to the first side of the line segment and a low radiation transmittance region corresponding to an opposite side of the line segment to reduce the pattern shift distortion by providing more of the modifying radiation to the high transmittance region than the low transmittance region.
9. (Previously Presented) The mask of claim 1, wherein the pattern comprises:

an opaque portion to block a portion of radiation incident to the mask from exposing the circuitry feature; and

a transparent portion to transmit modifying radiation to the circuitry feature.
10. (Previously Presented) The mask of claim 1:

wherein the exposed circuitry feature comprises a linewidth; and

wherein the pattern comprises a pattern to reduce the linewidth by transmitting linewidth reducing radiation to the region containing the linewidth.

11. (Previously Presented) The mask of claim 1, wherein the pattern comprises a pattern to reduce a proximity effect distortion in the exposed circuitry feature by transmitting proximity effect reducing radiation to the region containing the circuitry feature.

Claims 12-24 (Cancelled)

25. (Currently Amended) A set of masks comprising:
 - a first exposure mask having a first pattern; and
 - a second exposure mask having a second pattern, the second pattern including a subwavelength distortion reducing pattern to reduce a subwavelength distortion of the first pattern [[corresponding to the first pattern]].
26. (Previously Presented) The set of masks of claim 25, further comprising an optical proximity correction pattern of the subwavelength distortion reducing pattern.
27. (Previously Presented) The set of masks of claim 25, further comprising:
 - a corner portion of the first pattern; and
 - a corner cutout portion of the second pattern to reduce a corner rounding distortion corresponding to the corner portion by transmitting distortion reducing radiation to the corner rounding distortion.
28. (Previously Presented) The set of masks of claim 25, wherein the subwavelength distortion reducing pattern further comprises a serif relative to the first pattern.

29. (Previously Presented) The set of masks of claim 25, wherein the subwavelength distortion reducing pattern further comprises a hammerhead relative to the first pattern.
30. (Previously Presented) The set of masks of claim 25, wherein the subwavelength distortion reducing pattern comprises an image balancing pattern including a pair of low and high transmittance regions that is reversed relative to a corresponding pair of low and high transmittance regions of the first pattern.
31. (New) An apparatus comprising:
 - a first mask having a first pattern to expose an exposure feature in a radiation sensitive layer; and
 - a second mask having a second pattern, the second pattern having a transparent portion to reduce a proximity effect distortion of the exposure feature by providing radiation to a region of the radiation sensitive layer that contains the exposure feature.
32. (New) The apparatus of claim 31,
 - wherein the exposure feature comprises a gate feature having a corner rounded region; and
 - wherein the transparent portion comprises a cutout portion corresponding in position to the corner rounded region to provide radiation to the corner rounded region.
33. (New) The apparatus of claim 31, wherein the second mask further comprises one or more selected from the group consisting of: a phase shifter, a plurality of

proximate subresolution features, and a layer of radiation reducing material to transmit substantially less radiation than a region of quartz of the mask.

34. (New) An apparatus comprising:

 a first mask having a first pattern; and

 a second mask having a second pattern, the second pattern including an optical proximity correction corresponding to the first pattern.

35. (New) The apparatus of claim 34, wherein the optical proximity correction comprises one or more selected from a serif to reduce corner rounding of a feature exposed by the first pattern, and a hammerhead to reduce line shortening of a feature exposed by the first pattern.

36. (New) The apparatus of claim 34, wherein the optical proximity correction comprises a subresolution feature.

37. (New) The apparatus of claim 34, wherein the optical proximity correction comprises a plurality of subresolution features.

38. (New) An apparatus comprising:

 a first mask having a first pattern, the first pattern including a first pair of low and high transmittance regions; and

 a second mask having a second pattern, the second pattern including a second pair of low and high transmittance regions that correspond to the first pair, wherein the low and the high transmittance regions of the second pair are reversed relative to the low and the high transmittance regions of the first pair.

39. (New) A data structure in a machine-readable format comprising:
 - data representing a first pattern for a first mask; and
 - data representing a second pattern for a second mask, the data representing the second pattern including data representing a subwavelength distortion reducing pattern to reduce a subwavelength distortion of the first pattern.
40. (New) The data structure of claim 39, wherein the data representing the subwavelength distortion reducing pattern comprises data representing an optical proximity correction.